CSE 16
Applied Discrete Mathematics
Spring 2024

Description:
Introduction to applications of discrete mathematical systems. Topics include sets, functions, relations, graphs, predicate calculus, mathematical proof methods (induction, contraposition, contradiction), counting methods (permutations, combinations), and recurrences. Examples are drawn from computer science and computer engineering. Knowledge of computer programming is useful before taking this course. Students who do not have prior programming experience are strongly recommended to take CSE 20 or CSE 30 before taking this course.

Prerequisites: MATH 19A or MATH 19B or MATH 11B or AM 11B or AM 15B or ECON 11B.

Lecture: TTh 3:20 - 4:55pm   Classroom Unit 002
Class Webpage: https://people.ucsc.edu/~ptantalo/cse16/Spring24/

Instructor: Patrick Tantalo  http://users.soe.ucsc.edu/~ptantalo/
Email: ptantalo@soe.ucsc.edu

Office Hours: Wednesday: 10:00am - 12:00pm & 2:00pm - 4:00pm  Zoom Link  (Uses CruzID Gold)
Meeting ID: 970 6467 3490
Dates: Wednesday April 3 - Wednesday June 5

Teaching Assistants:
Engin Tekin  (etekin@ucsc.edu)
Anuj Kamat  (ankamat@ucsc.edu)
Kajal Patil  (kapatil@ucsc.edu)
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Course Tutors: TBA

LSS Small Group Tutor:
Ananya Balagere  (abalager@ucsc.edu)
Psi Padhya  (ppadhya@ucsc.edu)

Required Text:
Discrete Mathematics and its Applications

Supplementary Texts:
Book of Proof  by Richard Hammack
Applied Discrete Structures  by Alan Doerr and Kenneth Levasseur
Discrete Mathematics: an Open Introduction  by Oscar Levin
Coursework:
- 20% Homework Assignments (7-8): Written exercises from the Rosen text
- 15% Lab Assignments (3-4): Short programs related to Logic, Combinatorics and Probability
- 40% Quizzes (4): Alternate Thursdays beginning week 3 (Dates: 4/18, 5/2, 5/16, 5/30)
- 25% Final Exam: Monday June 10, 9:30-11:00am

All scores are rounded to the nearest 10th of a percent. They will not be rounded further. No scores are curved. The following letter grade boundaries will be used to determine your grade in the class.

Grading scale:

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Accommodations for Students with Disabilities
UC Santa Cruz is committed to creating an academic environment that supports its diverse student body. If you are a student with a disability who requires accommodations to achieve equal access in this course, please submit your Accommodation Authorization Letter from the Disability Resource Center (DRC) to me by email, preferably within the first two weeks of the quarter. I would be happy to meet with you in office hours to discuss how we can ensure your full participation in the course. I encourage all students who may benefit from learning more about DRC services to contact DRC by phone at 831-459-2089 or by email at drc@ucsc.edu. See also https://drc.ucsc.edu/.

Academic Honesty:
The Baskin School of Engineering has a zero-tolerance policy for any incident of academic dishonesty. If cheating occurs, consequences may range from getting zero on a particular assignment to failing the course. In addition, every case of academic dishonesty is referred to the students’ college Provost, who sets in motion an official disciplinary process. Cheating in any part of the course may lead to failing the course, suspension or dismissal from the Baskin School of Engineering, or from UCSC.

What is cheating? In short, it is presenting someone else’s work as your own. This would include collaborating with any person while writing your solutions to homework assignments or quizzes. You may discuss homework problems with fellow students and tutors, but your collaboration must be at the level of ideas only. Legitimate collaboration ends when you "lend", "borrow", or "trade" written solutions to problems, or in any way share in the act of writing your solutions. If you do collaborate (legitimately) or receive help from anyone, you must credit them by placing their name(s) at the top of your paper. Go to https://ue.ucsc.edu/academic-misconduct.html to see the University's policy on Academic Misconduct.
Important Dates:
Waitlists expire: Wednesday, April 10 (permission codes required as of this date)
Add/Drop/Swap deadline: Friday, April 19 (add by petition only after this date)
Withdraw from class deadline: Friday, May 10

Registrar Information:
Enrollment FAQ: https://registrar.ucsc.edu/faqs/students/enrollment/index.html
Waitlist FAQ: https://registrar.ucsc.edu/faqs/students/wait-list/index.html
Enrollment Videos: https://orientation.ucsc.edu/next-steps/slug-videos.html#enrollment
More How-To Videos: https://orientation.ucsc.edu/summer/how-to-index.html